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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/806,615	OTA ET AL.	
	Examiner	Art Unit	
	JOSHUA TAYLOR	2426	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 10/2/2008 have been fully considered but they are not persuasive. On page 10 of Applicant's remarks, Applicant claims that Reitmeier fails to teach or suggest when the second tuner converts a desired signal, and therefore does not teach of using the second tuner during spare periods. However, in column 8, lines 29-32, Reitmeier discloses that the channel scanning routine operates as a "background" or "idle-state routine." This means that the channel scanning routine operates at times when the system control routine is not active, and these times can be described as spare periods of time.

On page 11 of Applicant's remarks, Applicant argues that Reitmeier does not teach or suggest caching the digital content into a memory buffer and upon the first tuner being switched to a new channel associated with the program information stored in the memory buffer, recalling the digital content in the claimed fashion, because the frame buffer and the memory component of Reitmeier are different. However, Examiner points Applicant to column 10, lines 3-13, where Reitmeier discloses the relationship between elements 34 and 55 in Figure 1. Furthermore, as the language of claim 1 does not recite explicitly the condition that only one memory component may be used, Applicant's argument is considered non-persuasive.

Applicant's argument on pages 11-12 that Fries fails to remedy the shortcomings of Reitmeier is rendered moot by the above explanation, which concludes that Reitmeier does not have any shortcomings in the areas addressed by Applicant.

On pages 12 and 13, Applicant argues that both Reitmeier and Fries fail to teach or suggest a third tuner, as recited in Claim 9. However, Examiner contends that Fries, by stating

that each tuner can represent one or more tuners, discloses three or more tuners. For example, if in Fig. 3, tuner 300 represented one tuner, and tuner 302 represented two tuners, then three tuners would be represented.

On page 13, Applicant argues that neither Reitmeier nor Fries teach or suggest caching and recalling table information with the same memory buffer, as recited in claim 17. As stated in a similar argument above, the language of claim 17 does not recite explicitly the condition that only one memory component may be used. Applicant's argument is therefore considered non-persuasive.

On pages 13 and 14, regarding claim 23, Applicant argues that Reitmeier discloses a picture in picture mode of operation, rather than a channel change. However, Examiner points Applicant to column 4, lines 29-41, where Reitmeier notes that the circuitry (or software) used to implement a PIP processor is very similar to the circuitry (or software) used to provide the channel scanning and rapid channel acquisition functions of the Reitmeier invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to allow for the disclosed methods of Reitmeier to be used for either channel change or picture in picture functionality.

Examiner also wishes to clarify for the record a typographical error that occurred in the previous Office Action, dated 7/2/2008. On page 3 of the application, Examiner states that claims 1-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeier (Patent No.: 6,118,498 (‘118)) in view of Fries et al. (Pub. No.: US 2004/0078807). However, Examiner meant to cite Reitmeier’s Patent 6,115,080 (‘115). Examiner correctly cited the ‘115 patent in the PTO-892, filed 7/2/2008, and Applicant’s response on 10/2/2008 referred to the ‘115 patent. The

typographical error has been corrected in the following action, and the rejection is thus based on patent 6,115,080.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeier (Patent No.: 6,115,080) in view of Fries et al. (Pub. No.: US 2004/0078807).

Regarding claim 1, Reitmeier discloses **a method for displaying digital content comprising: using a first tuner to access a first transport stream** (Fig. 1, elements 10A and 10B, column 3, lines 49-56)**; displaying in a main picture area of a display screen, a program associated with said first transport stream** (column 4, lines 64-67)**; using a second tuner during spare periods to access a second transport stream** (Fig. 1, elements 10A and 10B, column 3, lines 57-65)**; decoding digital content from said second transport stream and caching said digital content into a memory buffer** (column 5, lines 8-12)**; and upon said first tuner being switched to a new channel associated with said program information stored in said memory buffer, recalling said digital content for use in providing a fast channel change operation to said new channel** (column 9, line 64 – column 10, line 3)**.** However, Reitmeier does not disclose wherein **the first transport stream is associated with a first**

frequency and the second transport stream is associated with a second frequency. Fries, however, does (Fig. 3, paragraph [0077], lines 4-9). Fries discloses that multiple tuners can be used to tune to various different frequencies, so that a receiving unit can more easily receive larger amounts of information. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the capability of Fries to have multiple tuners receiving multiple frequencies with the method of Reitmeier, where multiple tuners are used to expediate a channel change operation. This would have been a highly desirable feature, as it would allow receiving units to rapidly change channels even if the channels were sent on different frequencies.

Regarding claim 2: **A method as described in claim 1 wherein said second tuner is normally dedicated to picture-in-picture rendering on said display screen** (Reitmeier, column 4, lines 34-38, Fig. 1, element V2, column 5, lines 23-33)**.**

Regarding claim 3: **A method as described in claim 2 wherein said digital content comprises table information associated with said second transport stream** (Reitmeier, column 14, lines 26-40). Reitmeier states that there is a standard manner for extracting program map tables; i.e. table information, from a transport stream. Therefore, it would have been obvious to one of ordinary skill in the art to extract table information. Because one skilled in the art would know that table information is often associated with a transport stream, it would be desirable to combine this element into the method of claim 1 so that said table information could be accessed.

Regarding claim 4: **A method as described in claim 3 wherein said table information is derived from a program association table that is encoded in said second transport stream** (Reitmeier, column 14, lines 26-40)**.** This claim is rejected on the same grounds as claim 3.

Regarding claim 5: **A method as described in claim 2 wherein said digital content comprises decoded I frames of said new channel** (Reitmeier, column 10, lines 5-7)**.**

Regarding claim 6: **A method as described in claim 2 further comprising: using said second tuner to scan through a plurality of frequencies over time to access a plurality of transport streams; decoding digital content from said plurality of transport streams; and caching said digital content decoded from said plurality of transport streams in said memory buffer** (Reitmeier, column 3, lines 18-25)**.**

Regarding claim 7: **A method as described in claim 1 wherein said first transport stream and said second transport stream are the same and wherein said first frequency and said second frequency are the same** (Fig. 1, elements 10A and 10B, column 3, lines 57-65. The method of Reitmeier discloses only one frequency.)**.**

Regarding claim 8: **A method as described in claim 2 wherein said digital content cached to said memory buffer is associated with a channel that is a predicted next channel which is predicted based on previous channel selections (**Reitmeier, column 3, lines 18-25, column 7, lines 40-61)**.** It would have been desirable to have the channel in the memory buffer predicted based on a previous channel selection. This would be a desirable feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Claim 9 is similar to the method of claim 1, except that instead of two tuners associated with two frequencies, method 9 discloses three tuners associated with three frequencies. The method of claim 1 was rejected as unpatentable over Reitmeier in view of Fries, and the method

of claim 9 is rejected on the same grounds as claim 1. Fries discloses a system in which multiple tuners tune to multiple frequencies (paragraph [0077], lines 4-9), and so the obvious combination of Reitmeier and Fries includes a method with three tuners and three frequencies.

Regarding claim 10: **The method of claim 9 wherein said second tuner is normally dedicated for picture-in-picture rendering on said display screen** (Reitmeier, column 4, lines 34-38, Fig. 1, element V2, column 5, lines 23-33)**.**

Regarding claim 11: **A method as described in claim 9 wherein in response to a channel change to said third tuner, performing the following: using said third tuner to access said third transport stream; displaying in said main picture area of said display screen, said new channel associated with said third transport stream; using said first tuner to access a fourth transport stream associated with a fourth frequency; and decoding digital content from said fourth transport stream and caching said digital content into said memory buffer** (Reitmeier, column 15, lines 30-38)**.**

Regarding claim 12: **A method as described in claim 9 wherein said digital content comprises decoded I-frames of said new channel** (Reitmeier, column 10, lines 5-7)**.** With the digital video compression techniques commonly used at the time of the invention, it was necessary to have an I-frame to view a complete image, and so if the intent is to display a complete image from a digital stream, an I-frame is necessary.

Regarding claim 13: **A method as described in claim 12 wherein said digital content further comprises table information associated with said third transport stream** (Reitmeier, column 14, lines 26-40)**.** Because one skilled in the art would know that table information is

often associated with a transport stream, it would be desirable to combine this element into the method of claim 12 so that said table information could be accessed.

Regarding claim 14: **A method as described in claim 9 further comprising: using said third tuner to scan through a plurality of frequencies over time to access a plurality of transport streams; decoding digital content from said plurality of transport streams; and caching said digital content decoded from said plurality of transport streams to said memory buffer** (Reitmeier, column 15, lines 30-38). It would be desirable to use as many tuners as were available, so as to maximize the number of buffered channels and increase the likelihood of decreased channel change time.

Regarding claim 15: **A method as described in claim 9 wherein said second digital content cached to said memory buffer is associated with a channel that is a predicted next channel which is predicted based on previous channel selections (**Reitmeier, column 3, lines 18-25, column 7, lines 40-61**).** It would have been desirable to have the channel in the memory buffer predicted based on a previous channel selection. This would be a desirable feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Regarding claim 16: **A method as described in claim 15 wherein said first digital content cached to said memory buffer is associated with another channel that is a predicted next channel which is predicted based on previous channel selections (**Reitmeier, column 3, lines 18-25, column 7, lines 40-61**).** It would have been desirable to have the channel in the memory buffer predicted based on a previous channel selection. This would be a desirable

feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Regarding claim 17: **A method for displaying digital content comprising: using a first tuner to access a first transport stream associated with a first frequency; displaying in a main picture area of a display screen, a program associated with said first transport stream; using a second tuner to access a second transport stream associated with a second frequency; decoding table information from said second transport stream and caching said table information into a memory buffer, said table information comprising program identifications for programs of said second transport stream; and upon a channel change to a new channel associated with said second transport stream, recalling said table information for use in providing a fast channel change operation to said new channel** (Reitmeier, column 14, lines 26-40)**.** This claim is rejected on the same basis as claim 1. Because one skilled in the art would know that table information is often associated with a transport stream, it would be desirable to combine this element into this method so that said table information could be accessed.

Regarding claim 18: **A method as described in claim 17 further comprising: decoding I-frames associated with programs of said second transport stream; and caching said I-frames to said memory buffer; and upon said channel change to said new channel, also recalling cached I-frames for use in providing said fast channel change operation to said new channel** (Reitmeier, column 10, lines 5-7)**.** With the digital video compression techniques commonly used at the time of the invention, it was necessary to have an I-frame to view a

complete image, and so if the intent is to display a complete image from a digital stream, an I-frame is necessary.

Regarding claim 19: **A method as described in claim 17 wherein said second tuner is normally dedicated to picture-in-picture rendering on said display screen** (Reitmeier, column 4, lines 34-38, Fig. 1, element V2, column 5, lines 23-33)**.**

Regarding claim 20: **A method as described in claim 17 further comprising: using said second tuner to also scan through a plurality of frequencies over time to access a plurality of transport streams; and decoding and caching a plurality of table informations from said plurality of transport streams to said memory buffer** (Reitmeier, column 15, lines 30-38). It would be desirable to use as many tuners as were available, so as to maximize the number of buffered channels and increase the likelihood of decreased channel change time.

Regarding claim 21: **A method as described in claim 17 wherein said new channel is a predicted next channel predicted based on prior channel selections (**Reitmeier, column 3, lines 18-25)**.** It would have been desirable to have the channel in the memory buffer predicted based on a previous channel selection. This would be a desirable feature because the existence of a buffered channel only reduces channel change time if the channel to which the viewer changes is one that is being buffered.

Regarding claim 22: **A method as described in claim 17 wherein said first transport stream and said second transport stream are the same** (Fig. 1, elements 10A and 10B, column 3, lines 57-65. The method of Reitmeier discloses only one frequency.)**.**

Regarding claim 23: **A method for displaying digital content comprising: using a first tuner and a first decoder to access and decode a first transport stream associated with a first frequency; displaying in a main picture area of a display screen, a program associated with said first transport stream; using a second decoder to decode a second program; upon a channel change to a new channel associated with said second program, using said second decoder to display in said main picture area of said display screen said second program to provide a fast channel operation to said new channel** (Reitmeier, Fig. 1, elements V1, V2, and 40, column 4, lines 50-56)**.** Reitmeier discloses that either stream, V1 or V2, can be selected to be coupled to a video decoder that sends the video onto the main display (column 4, lines 64-67). Fries discloses that multiple tuners can be used to tune to various different frequencies (Fig. 3, paragraph [0077], lines 4-9), so that a receiving unit can more easily receive larger amounts of information. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the capability of Fries to have multiple tuners receiving multiple frequencies with the method of Reitmeier, where multiple tuners are used to expediate a channel change operation. This would have been a highly desirable feature, as it would allow receiving units to rapidly change channels even if the channels were sent on different frequencies.

Regarding claim 24: **A method as described in claim 23 wherein said first transport stream comprises said second program** (Fig. 1, elements 10A and 10B, column 3, lines 57-65. The method of Reitmeier discloses only one frequency.)**.**

Regarding claim 25: **A method as described in claim 23 wherein said second decoder is a spare decoder and wherein said second program is a predicted next program** (Reitmeier, column 3, lines 18-25)**.**

Regarding claim 26: **A method as described in claim 23 wherein said second program is associated with a second transport steam and further comprising: using a second tuner to access said second transport stream.** This claim is rejected on the same grounds as claim 23.

Regarding claim 27: **A method as described in claim 23 further comprising: using a second tuner and a third decoder to access and decode a second transport stream associated with a second frequency; and displaying in a picture-in-picture area of a display screen, a program associated with said second transport stream** (Reitmeier, column 4, lines 34-37). It would be desirable to use as many tuners as were available, so as to maximize the number of buffered channels and increase the likelihood of decreased channel change time. Also, dedicating the second transport stream to picture-in-picture would have been a desirable feature because it allows a viewer to keep track of what is happening on two channels at once, and if the second data stream is available for viewing, it is very simple to display it in the picture-in-picture area.

Regarding claim 28: **A method as described in claim 26 further comprising: using a third tuner and a third decoder to access and decode a third transport stream associated with a third frequency; and displaying in a picture-in-picture area of a display screen, a program associated with said third transport stream** (Reitmeier, column 4, lines 34-37). This claim is rejected on the same grounds as claim 27.

Regarding claim 29: **A method as described in claim 26 wherein said second program is a predicted next program further comprising: using a third tuner and a third decoder to**

access and decode a third program wherein said third program is a predicted next program (Reitmeier, column 3, lines 18-25**).**

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA TAYLOR whose telephone number is (571)270-3755. The examiner can normally be reached on 8am-5pm, M-F, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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